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Editorial

Nicholas Senn

Teacher of Surgery

COMING from solid and enduring German-Swiss stock, Nicholas Senn first saw the light in Buchs, St. Gall, Switzerland, on October 31, 1844, but did not long remain in his native land, for at the age of eight, his parents came to this country and settled in the little town of Ashford, Wisconsin, near Fond du Lac, in which latter community the boy gained his public schooling, graduating from the high school in 1864.

His ambitions turning toward medicine, he entered the Chicago Medical College, in 1866, graduated two years later as a Doctor of Medicine, and began his practice at Elmore, Wisconsin.

But Senn was not destined to spend his life as a country practitioner, and the first step toward the high places he was to occupy was his move to Milwaukee, in 1874, followed, three years later, by his pilgrimage to the university of Munich, Germany, from which he was graduated in 1878, having come under the influence of the great military surgeon, von Nussbaum.

In 1880 Senn returned to Milwaukee and, having been called to the chair of surgery at the College of Physicians and Surgeons, Chicago, he travelled the eighty-eight miles, back and forth, twice a week (when such a trip was considered quite a journey), to deliver his lec-

tures and hold his clinics. So wide and deep was his knowledge and so masterly his power as a teacher, that practicing physicians and surgeons came considerable distances to share his instruction with his undergraduate students.

During these strenuous days, in addition to his practice and teaching, he was carrying on, as a pioneer, first in the loft of his stable and then in a laboratory under the sidewalk of his home, those animal experiments on intestinal surgery which made him the acknowledged leader in this field.

Rush Medical College called him to be professor of surgery and surgical pathology, in 1888, and three years later promoted him to be professor of the practice of surgery and clinical surgery—then the most important surgical appointment in the West. He was also professor of surgery in the Chicago Polyclinic and surgeon-in-chief to several hospitals. Later he was professor of surgery and military surgery at the University of Chicago. In 1897 he was president of the American Medical Association.

With his military background (his father was a soldier in Switzerland), his adolescence spent in the national atmosphere of the Civil War, his hero worship of great army surgeons of the past—Paré, Larrey, Pirogoff—and his associa-

tion with leading military surgeons in Germany, still fresh from their experiences in the Franco-Prussian War, it was not strange that Senn had a deep fondness for military affairs which, in fact, became one of his chief hobbies, among many. In 1892 he was commissioned a brigadier general of the Illinois National Guard; and when the Spanish War broke out, in 1898, he accepted a colonel's commission in the Medical Corps of the Army and performed valuable services, as chief of the operating staff with the army in the field. His favorite picture of himself was the one in uniform, here reproduced. He was the chief founder of the Association of Military Surgeons and made large contributions to the science of war-time surgery.

Though Senn was a prolific writer and contributed several substantial books to the literature, he had a tendency to write as he operated and did many other things—boldly, freely, dashing and without much reference to authorities. That is, perhaps, why his writings have not shown the permanency one would expect. His personal precepts were far more powerful than his pen; and yet he was so strongly an individualist that he founded no personal following, though his teachings affected the scientific outlook of the entire Western Hemisphere.

Short, stocky, broad-shouldered, deep-chested, his physical and mental energy seemed inexhaustible. His knowledge of pathology and the history and literature of medicine was amazing. He was an authority on botany, an accomplished linguist and, in his later years, a world traveler. His final illness, resulting in his death on January 2, 1908, seems to have been brought on by a South American mountain climb to an elevation of 16,000 feet, causing dilation of a previously myocarditic heart and accompanying acute nephritis.

Among the few really great surgical teachers of the world, Senn holds a high place; and those who had the joy and good fortune to come in contact with his dynamic, warm-hearted, sympathetic, erudite and enthusiastic personality will always give thanks for that unforgettable experience.

Money and fame can win attention, but the popular are those who wear well at close range.—ROBERT QUILLEN.

Dull Medical Articles

I HAVE never understood why so many physicians who are charming conversationalists, good impromptu speakers and adept story tellers, will discard their individualities entirely when they begin to write for a medical journal. Throwing aside those epigrammatic sentences, those salty phrases, those apt quotations and those bits of subtle humor which make their informal speech so delightful, they adopt that stilted and rather ponderous style which is so characteristic of most medical journals. . . . Read our journals and you will find much of what is written weighted down with trite headings, stereotyped phrases, involved sentences and polysyllabic words."—J. P. PRICE, M.D., in *Med. Ann. Dist. Col.*, Feb. 1943.

Many physicians, who have, learned much of value in their practice, will not write for publication because they say, "I can't write it in proper form." There is no one proper form for ideas. They may be presented in a humorous way or in a simple, straightforward manner, just as you would tell a physician friend. If you are doing something that may help other men all over the country to practice better, won't you just jot it down and send it in? Or if you notice a statement made in medical journals that does not jibe with your experience, write us a letter. We will print it.

The ideal life is only man's normal life as he shall some day know it.—EMERSON.

The Dilemma of the General Practitioner

THE general practitioner is a useful man, but, for the most part, he is a lone worker. That is not good for him or for the public he serves. If he has a small practice, he may be too poor to acquire proper instruments and equipment. If he has a large practice, he may be too busy to use what he has.

He is on duty, day and night, every day in the year. He gets tired, he gets stale, he gets in a rut, sometimes in a muddle. It is difficult and costly to get away for a holiday or study. He often works when he ought to be in bed. If he dwells on his helplessness to alter bad

conditions among his patients, and the long road in front, he may become hopeless.

He ought to have colleagues to cheer him up, to share the burden, to keep him up to date, to correct his mistakes, and, above all, to enlarge his freedom. In this way, he will become a more effective servant of the public."

The above outburst appeared in the *Medical World*, the English journal of the Medical Practitioner's Union, on November 27, 1932. The author was R. H. Quine, L.R.C.P., D.P.H., "an old, retired doctor."

It is a reflection on the hard common sense of physicians that they continue to compete with each other for patients, glory and money. What is it that makes each of us so egotistical, so convinced that only ourselves can properly care for the sick?

It is not necessarily a financial matter. In one large clinic, where all members are on a salary and it would seem that free referrals would be a matter of course, there is reluctance to ask for advice. The surgeons continue to perform exploratory operations, although a physician skilled in peritoneoscopy is at hand. The orthopedic surgeons are in no hurry to ask for consultation with the internists who are consulting in the special field of arthritis.

Among general practitioners, especially where the city is not large, there is almost constant disagreement. Such internal bickering is not only discouraging to the patient, but it lowers the level of medical practice. No one physician can take care of all the sick, nor can one group, so accept the fact that other physicians must share the responsibility.

In smaller cities, where specialists do not invade the field, it has been suggested that each practitioner make one field his hobby, without giving up general practice. Many of our most famous specialists have started this way. (This

is the way that the National Boards of Specialists are endeavoring to block, incidentally.) Even where this need not be done, or cannot be done, *every physician should study something that interests him in the field of medicine*. By so doing, he keeps alive his interest in the practice of his profession, keeps more alert and happier, renders better care to his patients.

He should visit the other physicians in his neighborhood at least once a week. Not on official matters, but to chat over this and that, or to talk of an interesting case. He should borrow several ampoules or books and return them promptly. A man who does something for you feels friendlier toward you.

He should say a cheerful word when passing the other physicians on the street or in the hospital. Never condemn another physician to anyone; when all aspects of the case become known, there usually is no cause for criticism. When asked whether or not another doctor's conduct was correct, always reply that your opinion would mean little unless you were in possession of all the facts. The patient who criticizes another physician usually bears ill will, often because an account is unpaid. This type of person will be happy to criticize you, later on.

By working with your colleagues, instead of against them, you will find that they will stand up for you, will be fun to work with, and you will be happier. You can take a vacation with the assurance that your patients will receive unbiased advice during your absence. If you take a postgraduate trip or course, drop in on the other fellows and tell them of the important points learned while you were away.

The physicians of the United States comprise a large army, which is spread over a great territory. Jealousy and criticism prevent this army from acting to full effectiveness, as it does in any army.

THE SENSE OF WONDER

Every scene, even the commonest, is wonderful, if only one can detach oneself, casting off all memory of use and custom and beholding it as if for the first time—simply, artlessly, ignorantly, like a baby, who lives each moment by itself and tarnishes the present by no remembrance of the past.—ARNOLD BENNETT

LEADING ARTICLES



The Ophthalmoscope and Its Use

By OSCAR B. NUGENT, M.D., F.A.C.S., F.I.C.S.,* Chicago, Illinois

THE ophthalmoscope is an instrument designed for and used as an aid in the examination of the interior of the eye.

The ophthalmoscope should be used by every physician whose practice requires him to make a diagnosis. This includes almost every branch of medicine. Many general diseases, focal infections, brain tumors, kidney disease, and arteriosclerosis, have signs in the eye which cannot be found without the use of the ophthalmoscope. This article, therefore, is produced in the hopes that it may be an inspiration and an aid to any physician who wishes to include the ophthalmoscope in his daily practice as an aid to diagnosis.

The advantages in the use of the ophthalmoscope in the routine of general examination are many.

First: It does not require much time, as an experienced observer can in a very short time diagnose the presence or absence of pathological changes in the media or fundus. This, in itself, may be all that the examiner may wish to accomplish, for if he knows that some ocular lesion exists, he can then send the patient to an ophthalmologist for detailed examination and diagnosis, and on the other hand, if no pathosis exists, he can save unnecessary time and expense caused by sending the patient to the ophthalmologist.

Second: The examiner may easily be led to a diagnosis by the presence of certain characteristic fundus findings, such as the "choked disc" or the pale disc of atrophy, either one of which may lead to a diagnosis of brain tumor or other lesion in the brain cavity.

The star-like exudate in so-called albuminuric retinitis may lead to diagnosis of renal disease or the characteristic retinal exudate of diabetes may be present. Arterial hypertension, arteriosclerosis, syphilis and other diseases may have findings in the fundus which



Fig. 1: May Prism Type Electric Ophthalmoscope (Cameron)

can only be found by the use of the of asthenopia.†

Third: The presence of high refractive errors can often be detected, and this alone may assist the examiner in the determination of the etiological factor, especially when the symptoms are those of asthenopia.†

Fourth: Fundus tumors can be diagnosed by means of the abnormal elevation of the retina over the tumor, and in glaucoma, there is an abnormal characteristic excavation of the nerve head, also, cloudiness of the vitreous, cataract and other lesions are quite easily diagnosed.

†Eye Strain: "the group of symptoms dependent upon fatigue of the ciliary muscle or the muscles outside the eye ball" (May).—Ed.

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The electric ophthalmoscope (Fig. 1) is now almost universally used in America because of its ease of manipulation and better lighting facilities. There are several makes and designs, some of which have batteries in the handle for



Fig. 2: Showing position at start of direct ophthalmoscopy. (Here, pupillary reflex is seen and should be kept in view while moving to second position. See Fig. 3.)

the source of electric current and others receive the electric current through a rheostat from the street current.

Direct Ophthalmoscopy

The direct method is best fitted for the following observations: (1), to study the details of the fundus; (2), to determine the refraction of the eye; (3), to detect opacities which may be present in the dioptic media (cornea, crystalline lens and vitreous); (4), to note any irregularities in the level of the retina such as tumor elevations and, also, depressions as seen in the disc in glaucoma.

The direct method is best accomplished with the electric ophthalmoscope. It is best performed in a dark room with the patient's pupils dilated, although these details are not always necessary to the experienced examiner.

Examination

The patient is instructed to look straight in front of him at some object on a level with his face or slightly higher. The examiner sits or stands facing the patient, and to the patient's right while examining his right eye, and to the left while examining the patient's left eye.

To start the examination, the examiner's eye should be about fifteen centimeters from the patient's eye and in this position, while looking through the sight hole of the ophthalmoscope, (Fig. 2), a beam of light is directed into the pupil of the patient's eye. The examiner

should now see a red reflex (fundus reflex) in the patient's pupil. It is not difficult to find this reflex in this position and when it is once located, it must be used as a guide by keeping it always in view during the examination. The examiner now moves nearer to the patient's eye always keeping the fundus reflex in view. In case the reflex is lost, the examiner must assume his original position, retrieve the reflex and then again start moving towards the patient's eye.

As soon as the examiner's eye is within one or two inches from the patient's eye, (Fig. 3), some fundus details should be seen, such as a retinal vein or artery or the nerve head. If the patient is looking in the proper direction, the nerve head should come directly into view.

No land marks will be seen by the examiner in his first trials, if the patient should be looking at the light of the ophthalmoscope instead of the object he was originally directed to view, for if he looks at the light, his fovea will be brought into view and there being no blood vessels in this area, the examiner will see nothing but the fundus reflex. Therefore, much time can be saved by instructing the patient as to his conduct and keeping close watch to see that he follows instructions.



Fig. 3: Second position in Direct Ophthalmoscopy of right eye.

As stated above, if the patient is looking in the proper direction, the nerve head should be the first land mark to be detected. From here, the examiner can examine the fundus in a systematic manner; he can cause the illuminating beam from the light source to follow the various blood vessels as they emerge from the nerve head and so at all times during examination, he can have perfect orientation and will not easily be confused as to what part of the fundus he is viewing.

The beginner will have achieved the

most difficult step in the examination, once he has been able to see and recognize the nerve head. This step will have to be repeated many times before it can be accomplished with ease.

A schematic eye is a great help in learning the art of ophthalmoscopy, for with such an instrument, the beginner can take his time and can have a great deal of practice before he ever attempts to examine the human eye.

Opacities in the media are often encountered and are usually seen by using the following methods of examination. Start the examination by holding the ophthalmoscope about ten inches from the patient's eye. As soon as the fundus reflex is seen, begin to place plus lenses in front of the eye by manipulating the disc which carries the lenses; first a plus 1 diopter lens, then a plus 2, 3, and so on until some detail of the cornea or lens can be detected. At this step in the examination, if opacities are present, they will appear as dark shadows, spots, streaks or web-like, depending upon their shape as they exist in the eye. As soon as these spots come into view, they should be brought into proper focus by either increasing or decreasing the strength of the lens or by moving the ophthalmoscope slightly nearer or farther away from the patient's eye at which place their form, size, and position can easily be determined.

At first, it may be difficult to discover their exact location, whether they are in the cornea or the crystallin lens. This can be made easy by moving the ophthalmoscope to the right and left and observing the position of the opacity in relation to the pupil. If when moving the ophthalmoscope to the patient's right, the opacity seems to move also to the right side of the pupil, or in the same direction that the ophthalmoscope was moved, then the opacity will be found in the lens or behind the pupil. If however, the opacity should appear to move in the other direction, or nearer to the left side of the pupil, then the opacities will be found in the cornea. If there should be no movement of the opacities in relation to the patient's pupil, then the opacities will be found to be located in or near the anterior capsule of the lens.

To discover opacities or so-called "floaters" in the vitreous, plus lenses from 5 to 15 diopters should be used and the ophthalmoscope held quite close to the patient's eye. They are best focused, then, by changing the strength of the lenses, and if the "floaters" are yet not seen, it is a good plan to have the patient look slightly above the object

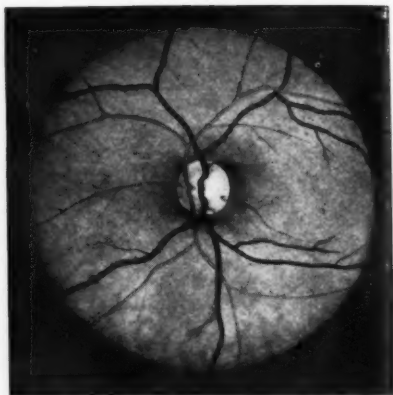


Fig. 4: The normal fundus (retina) of the eye (Oatman).

upon which he has been fixing his eyes and then the vitreous oscillates and by virtue of its movements, they are more readily seen.

Summary

1. Take a little time to explain to the patient just what his conduct should be during the examination; that is, he should sit erect and hold his eyes in the proper position by gazing at an object directly in front of him and ten feet or more away.
2. The pupil should be large enough to admit sufficient light to enable the examiner to see details. In the case of the beginner, it is best to dilate the pupil with some midriatic such as homatropine, paredrine, neo-synephrine, or any of the other preparations for that purpose, and if the patient is past forty years of age, eserine or pilocarpine should be instilled in the eye directly following the examination to assist in preventing an increase in intra-ocular tension.
3. The room should be quite dark; the darker the room, the greater the ease in using the ophthalmoscope.
4. The examiner assumes a position in front of, and slightly to the right of, the patient while examining the patient's right eye and to the left of the patient using his left eye to examine the patient's left eye.
5. The first trials are necessarily slow and require much time. Do not overtax your patient and unnecessarily tire him, but give him time to rest his eyes by closing them occasionally; it only requires a few seconds to rest the eyes before the examination is resumed.
6. There is an old slogan, "Practice

makes perfect", which should be kept in mind in trying to master the ophthalmoscope.

7. The examiner must have a fair knowledge of the landmarks and the ap-

pearance of the normal fundus (Fig. 4) in order that he may recognize the abnormal findings when encountered.

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A Low Carbohydrate Diet for Angina

By BENJAMIN P. SANDLER, M.D.,* Quonset Point, R. I.

THERE is evidence to show that the anginal syndrome is due, fundamentally, to a disturbance in carbohydrate metabolism, and that the metabolic disturbance itself is due to the ingestion of carbohydrate rich foods. This concept, regarding the etiology of the anginal syndrome, is supported by the fact that the symptoms may be prevented by a low carbohydrate diet. The author has successfully controlled the disease in a group of patients of varied ages, some for as long as five years. Patients with hypertension responded just as well as patients without hypertension, and patients with electrocardiographic changes responded just as well as patients without electrocardiographic changes.

The glucose tolerance test was used to elicit the disturbance in carbohydrate metabolism. This test revealed that most patients with angina show a fall to absolute hypoglycemia 2 to 4 hours after the ingestion of the glucose solution or after the ingestion of a meal containing carbohydrate rich foods. The rest of the patients, after similar test meals, give a hyperglycemic (diabetic) curve with a more or less sharp fall to previous fasting levels.

There is evidence to show that the anginal attacks coincide with spontaneous lowering of the blood sugar concentration to hypoglycemic level in the case of non-diabetics, and to relative hypoglycemic level in patients with hyperglycemia. Since glucose is by far the chief source of energy for the heart muscle any deprivation of the heart muscle of its chief source of energy will embarrass it and cause interference with its normal function. Thus, any lowering of the blood sugar level, especially if it be rapid, will result in a partial deprivation of glucose. Since carbohydrate rich foods may cause such abnormal fluctuation in blood sugar levels, with periods of sharp rise and sharp fall, the elimination of these foods prevents anginal seizures because it

stabilizes the blood sugar, and prevents sharp rise and fall in blood sugar levels.

This concept of the etiology of the syndrome readily explains the tendency for attacks to occur in some patients at certain definite times of the day, such as 2 to 4 hours after meals and during sleep, a period of fasting. Attacks on exertion may be explained by the fact that the blood sugar, while not necessarily low at the time of exertion, is inadequate for the demands being made on the heart muscle.

That lowering of the blood sugar may cause anginal seizures and fatal cardiac infarction following insulin.

It has also been established that the heart muscle utilizes oxygen in proportion as it utilizes glucose. A reduced delivery of blood glucose to the heart muscle will therefore result in a reduced oxygen consumption. A disturbance in carbohydrate metabolism results ultimately in a reduced oxygen consumption. This is true for the non-diabetic just as it is for the diabetic. Thus, it has been possible to induce anginal seizures by having patients breathe in air with reduced oxygen tension, as well as by lowering the blood sugar with insulin; in both methods attacks result from a final common effect; namely, a reduced oxygen consumption.

In addition to relief from the anginal seizures, patients with hypertension showed a gradual lowering of the blood pressure, which, in younger individuals, reached normal and remained at normal levels as long as the diet was followed. Whenever patients went off the diet, attacks recurred and the blood pressure rose.

Headaches, dizziness, faintness, mental depression, epigastric discomfort, and abdominal pain also disappeared on this dietary regime. These symptoms are due to the effects of the abnormal blood sugar levels on the brain itself and readily disappear when the blood sugar level is stabilized by the low carbohydrate diet. The diet employed consists of a low carbohydrate intake with increased

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protein and fat (carbohydrate, 75 to 100 Gm.; protein, 100 to 150 Gm.). The patient is instructed to take some food between meals and at bedtime such as a glass of milk or tomato juice or cheese, and to avoid the carbohydrate rich foods, bread, sugar, potatoes, cakes, candy, ice-cream, spaghetti, corn, rice, tapioca, bananas, prunes, split-peas, etc. Soybean products are used to replace cereals, and soybean flour is used for baking

purposes. Carbohydrate is limited chiefly to 5 and 10 percent vegetables and fruits.

(This material was submitted by the author in response to a request from a reader. Much of the contents were published in the *Medical Annals of the District of Columbia*, 10:371 (Oct.) 1941. If any of our readers care for the specific diet sheet as given to us by Dr. Sandler, *CLINICAL MEDICINE* will be glad to furnish copies without charge.—Ed.)

Study of Defective Children*

By W. E. MCKINLEY, M.D., Osawatomie, Kansas

PEDODOLOGY has been defined as "That branch of Pediatrics in which the physical and mental defects of development are especially studied and treated by the physician".

Many controversial discussions on this subject have arisen in the past owing to the multiplicity of theories as to what should constitute the basic facts in the study of pedology; also, many movements have been promulgated by laymen attempting a task in which they are wholly unfitted by lack of training and experience to successfully interest the public or the medical profession sufficiently to get behind and champion such a worthy cause, or to stimulate a more thorough investigation of the causes and treatment of feeble-mindedness and other mental diseases of childhood.

It is quite evident that many children do develop mental defects at an early age, producing retardation and derangement of the cerebral centers; many of these cases are frequently overlooked or neglected until it is too late to accomplish beneficial results from any form of therapy.

This subject has a very important field; one in which much good may be accomplished for the unfortunate, defective, backward child. Men who have had specialized training, and who are familiar with the many factors involved in the developmental activities in defective children, should make careful, scientific study of the prophylaxis, etiology and treatment of all these cases, and thus perform an important obligation to society and humanity.

*This is an original abbreviated resume of an article entitled "Pedology and Its Possibilities," published in *The Journal of The Kansas Medical Society*, March 1942.

In early life, while the brain is soft and plastic, much may be accomplished for these defectives; and, while we all recognize the great benefit to be derived from the proper use of heliotherapy, rest, exercise, and fresh air, yet it is a mistake to depend upon them as curative agents; especially to overcome a disease which has for its basic pathological foundation the overstimulation or dysfunction of the ductless glands.

Endocrine Causes

Falta¹ says, "We must accept the ductless glandular system for itself alone; the ductless glands as vegetative organs, together with the nervous system, regulate their function".

McCready² remarks, "While our knowledge of the normal action of the endocrines is still somewhat hazy, yet they are found to preside in some manner over certain correlations of the body, and the majority of the feeble-minded children, in which backwardness is not traceable to accidental or purely environmental causes, presents evidence of ductless gland irregularity with resulting growth disturbances in the developing embryo, especially in the weeks of foetal life when the ductless glands begin to appear in the cells of which they are composed grow imperfectly and defective development ensues."

Lombroso has given us a vivid picture of mental derelicts: "Many of these children are born malformed both externally and internally through the chemical imbalance of their mother's blood and internal secretions during that period of pregnancy in which we often find disturbance of the ductless glands." Many of these unhappy individuals show gross defects from such disturbances, and are the typical criminals of Lombroso.

Dr. Hall³ writes, "All great criminals have given proof of perversity in their youth, especially at the age of puberty and sometimes even before."

Henderson⁴ says, "We may safely make the generalization that most all criminals are physically inferior; the mental subnormal conditions are causally related to some anatomical and physiological defect which requires no argument. It is a commonplace science."

Environmental Causes

It is quite obvious that dwellings in the crowded area of commercial districts soon become undesirable for homes. Age and depreciation follow under such circumstances, and they become unprofitable investments, producing poor housing conditions, smoke, noise, offensive odors and general unattractive surroundings which we may call "*the slum districts*". It is here that we find the greater number of delinquents and associates in crime.

Dr. Richards⁵ says, "Underneath every crime is some kind of incompetence, and underneath incompetence is some kind of physical defect, either inherited or acquired."

Dr. Henderson quotes Tarde as follows: "The delinquent is before everything a sick man caused by insufficient nourishment of his nerve centers, badly nourished brain, misfortune and poverty."

There are those who do not believe in heredity, yet we must confess that there is more or less convincing evidence in heredity, plus environment, in the evil effects of relationship as a definite contribution to delinquency, feeble-mindedness and crime. When we study this subject the more we are impressed by the predominating evidence in which the family relationship and its underlying effects upon the child are clearly demonstrated, and these are important in the study of the backward child. These subtle agencies do far more harm to the adolescent and the youth than many are willing to believe. Separation and divorce of parents may not be the most important causes of child delinquency, yet we may consider it presumptive that frequent conflicts, fits of temper, fights, and exasperating quarrels between parents in the presence of young children may be an exceedingly far reaching cause of delinquency. Such emotional conflicts leave a distorted and lasting definite impression on the mental and the emotional equilibrium of the child.

These social relationships begin in the

home in the earliest infancy and continue as the most potent forces in the whole life of the child.

Burgess⁶ says, "It is these relationships, attitudes and gestures between parents, and brothers and sisters, which give form and direction to the child's love, to his hate, and to his fears. It is out of these relationships that crippling jealousies and envies may emerge, depriving the child not only of his happiness but his efficiency for life."

"The child, in his behavior, generally finds his models in the accustomed behavior patterns in his own family; those of his relatives he admires, or some of his companions, may serve him as his model, and through these patterns he acquires his attitude of authority. If his parents are critical of the school and the teachers, he reflects this attitude by rebellion or antagonism. If he feels that his parents are fair in their judgments of others, or of his own mistakes and behavior, the child gets an attitude of fair play which he carries on in his relations with the people he meets. Even his sense of humor is largely dependent upon the family mood and is reflected in his daily character."

Students of pedology are convinced that a large number of delinquents and young criminals are inducted into crime at a very early age. Case histories compiled indicate conclusively that many inmates of penal institutions can be traced back to charges occurring in early childhood and during the adolescent period. They are the sum total of growth development under emotional strain and duress.

Dr. Rock Sleyster of the Minnesota State Prison gave his report of 269 murderers: "One-third of these prisoners had never been in school; only 50% had reached the fourth grade; 25% of those who had attended school gave a record of truancy; 55% were at work making their own living before reaching the age of 12 years; 90% were making their living before reaching the age of 15 years."

Many writers of the past have made use of the following terms interchangeably, viz., *deficient* and *defective*. It is at present quite apparent that one kind of mental sufferer owes his trouble to disturbances of the formative process in the cells at any early stage of development of the foetus, with the result that certain parts of the central nervous system or brain are either totally absent or only partially formed. The other type has suffered a formative upset either in foetal life, or of a less severe character,

with the result that the brain is completely formed; whereas, the glands and certain neuron groups have been malformed or underdeveloped. In the first instance there is an absence, or lack of brain mechanism, in other words, a deficiency. This classification includes idiots, imbeciles and half-wits, low and high grade morons and their types—the whole feeble-minded family.

Many mental sufferers belong to the second, or defective type. Their brains are fully, or normally, developed. They show high intellectual quotients, are intellectually sound and nimble-witted, sometimes displaying talent and occasionally marked ability, or even genius. Instead of deficiency, these types display either subtle or gross faults in the mental and nervous mechanism which vary in intensity to their surroundings and situation. These faults or dysfunctions are no doubt due to disturbance of the endocrine glands. Persons belonging in this group uniformly display a lack of inhibition, which is to say, an inability to control their actions. They are accordingly called abnormally unstable since it is the emotional mechanism in the brain which is affected. The fundamental difference, between this group and the feeble-minded, is there is no absence of parts to do their work, but defective function. Consequently, this type is known as defective, or functional type.

Feeble-mindedness is constantly on the increase because mothers, both foreign and native, are being disturbed nervously, emotionally and glandularly by modern environment; by conditions under which women live and labor; by the stresses, the speed, the shock and the compression of existence. The result of this exposure may be seen most clearly in gross idiots and the imbeciles born of women, otherwise sound and strong, who have been emotionally disturbed and, therefore, glandularly unbalanced during the important months of gestation.

Endocrine Treatment

The crude, fantastic ideas of Brown-Sequard and his followers have ripened into a golden fund of knowledge, well established, placing endocrinology upon a rational basis, furnishing definite indications for administration of many glandular substances to definite diseased conditions.

As Dr. Max Schlapp⁷ has well said, "We have seen cretinous imbeciles in which the formative process has been arrested (because of absence of the necessary chemical substances which stimulate cell growth), and have observed soon after this chemical substance has been supplied artificially that growth is resumed and the cretinous children develop normally."

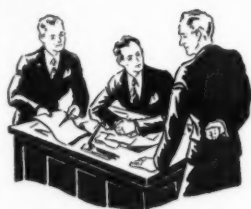
Organotherapy is not a panacea in the treatment of feeble-mindedness, mental disorders, or mental defectives. Those who are looking for a specific in glandular therapy are likely to be very much disappointed. There are, however, many cases which have and do respond brilliantly to its therapy, and excellent results have been achieved by their use.

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HOW TO WIN AN ARGUMENT

The way to convince another is to state your case moderately and accurately. Then scratch your head, or shake it a little, and say that is the way it seems to you, but that of course you may be mistaken about it; which causes your listener to receive what you have to say, and, as like as not, turn about and try to convince you of it, since you are in doubt. But if you go at him in a tone of positiveness and arrogance you only make an opponent of him.—BENJAMIN FRANKLIN



GRADUATE COURSE

Head Injuries, Part I

Skull Fractures and Brain Injuries

With Remarks Concerning Associated Injuries

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THERE are approximately six hundred thousand serious head injuries occurring annually in the United States. If one wishes to include less serious head injuries having a certain amount of morbidity but practically without fatality, this number can be increased to *more than one million head injuries* as the annual crop. Almost a third, or approximately two hundred thousand, of these serious head injuries have skull fractures. The automobile is responsible for fifty per cent of these skull fractures. Falls in the home, on the street, and while at work account for twenty-six per cent. The remaining twenty-four per cent are due to miscellaneous etiological factors related to work, play, other modes of transportation, kicks from domestic animals or conflicts between human animals.

Since these more terrific etiological agencies (automobile, etc.) are potential carriers of skull fractures and associated injuries to every village as well as to large medical centers, it is obvious that the proper management of these cases, especially the early management, is the full responsibility of the general physicians and surgeons of the country as well as the specialists in brain surgery.

With death rates varying from sixteen per cent to forty-two per cent in proved skull fractures, and with from fifty per cent to sixty-five per cent of these deaths occurring in the first twenty-four hours, it is evident that *the type of early management rendered spells life or death* for many of these victims. When serious associated injuries are present, the life-saving emergency measures require even greater judgment and much common

sense if the early mortality rate is to be reduced.

Cerebral Shock

Cerebral shock causes many of these early deaths. Grafted on the condition of ordinary shock are the manifestations of direct or indirect damage to the vital cerebral centers, thus presenting a definite entity — cerebral shock. Varying stages of disturbed consciousness accompany this form of shock. The cold clammy skin and other evidence of ordinary shock may be absent but the slowed pulse, shallow respirations and low blood pressure usually indicate the presence of cerebral shock. The wise surgeon will treat every case as one of potential cerebral shock from the moment it enters the hospital until further close observation demonstrates the danger is past.

When severe associated injuries are present, the ordinary shock combined with the cerebral manifestations often will give such a profound shock that death may ensue before any measures can be administered. The only immediate indications are absolute rest, blood transfusions, the administration of oxygen, intravenous solutions and similar measures. Major procedures such as the reduction of a fractured femur or humerus, the amputation of a crushed extremity, and even such minor procedures as the suturing of a scalp wound, are definitely contraindicated in cerebral shock and especially in the profound shock accompanying associated injuries. Probably the only exception to this rule would be in the case of ruptured viscera with hemorrhage so severe that death was bound to occur unless the bleeding was stopped.

Absolute rest: Unfortunately, movement of the injured patient from the scene of the accident to the hospital, preferably the nearest hospital, is necessary. The nearer one approaches absolute rest for the victim from the moment he enters the hospital until the stage of cerebral shock is overcome, the better the chance of saving the patient.

Almost every hospital has an emergency admittance room where accident

victims are first received, examined, and the decision made concerning retention or discharge of the patient. In many hospitals the x-ray laboratory is adjacent to this emergency room, offering a constant temptation for determining the presence or absence of a skull fracture, or of ascertaining the extent of associated injuries, for example, fractured extremities.

The head injury patient admitted by ambulance are carried on a stretcher into the emergency room, lifted to the examining table, clothes cut off or removed, examined, the scalp wound usually sutured at once, then too often transferred to a cart and taken into the x-ray room where a third transference to the x-ray table is made. The patient is then turned in many directions and from two to eight views of the skull are made, and other suspected fractures may be x-rayed if the patient is still alive. The victim is then transferred back to a cart, fourth transference, and taken to a bed where the fifth transference from the cart to the bed is made.

Every head injury case brought to the hospital, if he is still unconscious or if there is a history of unconsciousness, must be taken directly from the ambulance or automobile to a hospital bed. Warmth, but not excessive heat, should be applied even while the clothes are being removed. The scalp wound can be washed with soap and water and a sterile dressing applied, until it is safe to add even the slight insult of a scalp suture to this patient. Blanket splints or pillow splints or other types of splints can be applied to the fractured extremities until such time as it is safe to ascertain by x-ray the nature and extent of the fracture and to administer the indicated treatment. If the patient continues in delirium or coma, many days may elapse before any x-ray examination is made or before any associated injuries may be safely treated. *Rarely is there any intracranial injury which can be demonstrated or can be benefited by operative interference during the first twenty-four hours.* The one exception to this is probably the compound depressed skull fracture which requires operation after cerebral shock is overcome.

In the *Journal of the American Medical Association* of October 17, 1942, Mock and Mock, Jr., give a comprehensive study of 7,033 consecutive proved skull fracture cases which the senior author had collected and divided into two nation-wide surveys. The first survey, covering 3,156 cases collected from 1928 to 1935, revealed mortality rates for

proved skull fractures varying from twenty-five to forty-nine per cent; the second survey covering the period 1935 to 1940 concerned 3,106 consecutive proved skull fracture records collected and studied, and showed mortality rates varying from seventeen to forty-two per cent.

Four of the nineteen hospitals represented in this second survey treated 323 cases with mortality rates varying from seventeen to twenty-one per cent (Good Management Group). Five hospitals treated 2,033 cases with mortality rates varying from twenty-three to twenty-nine percent (Average Management Group). Ten hospitals treated 750 cases with mortality rates of from thirty to forty-two per cent (Poor Management Group).

It is the candid opinion of this author that the observance of the above common sense rules concerning shock, rest, treatment, and the management of associated injuries would have reduced the mortality rates in the Poor Management Group from twenty-five to fifty per cent.

Brain Injury Treatment

Limited space will only permit a bare outline of specific management aimed at sustaining life in the brain injury case until such time as the brain begins to function normally again. Since it is impossible to lift the skull cap and see the specific damage done to the brain by the trauma, we must rely upon the signs and symptoms displayed by each individual case to guide our treatment.

Close observation from the time the patient is admitted until he is out of danger is essential if one is to discover these signs and symptoms, which frequently change every few minutes and which are the indicators of the treatment needed. Thus, one must watch the pulse, respiration and blood pressure at least every hour, and oftener is better. The temperature should be taken at least every two hours. A persistent slow pulse or rapid pulse and respiration following a period of slowness and a persistent low diastolic blood pressure are definite indications to resort to spinal drainage. (See Table I.) Fever climbing above 102°, especially in an adult, indicates threatened pressure on the heat center, a pressure which only may be relieved by spinal drainage. A persistent or deepening unconsciousness likewise indicates the need of spinal drainage. Persistent restlessness or delirium, or, if the patient is conscious, persistent headaches show the presence of increased intracranial pressure which must be relieved. Often urinary retention is the cause of this

TABLE I

SYMPTOM	SIGNIFICANCE	TREATMENT
1. Persistent slow pulse	1. Increased intra-cranial pressure	1. Spinal puncture, removal 40 cc. fluid (average)
2. Rapid pulse, respiration after a period of slowness	2. (a) Increased intra-cranial pressure (b) Medullary compression	2. Spinal drainage as above
3. Fever above 102° F.	3. Pressure on the heat center	3. Spinal drainage as above
4. Persistent or deepening unconsciousness	4. (a) Increased intra-cranial pressure (b) Ischemia (c) Anoxia	4. Spinal drainage
5. Persistent restlessness, delirium or headaches	5. (a) Urinary retention	5. (a) Catheterize
	(b) Increased intra-cranial pressure	(b) Spinal drainage
	(c) Overdehydration	(c) Watch water balance

restlessness. Often overdehydration may be the cause of the restlessness and headache and even persistent vomiting. Only by the closest observation of your patient can these conditions, which threaten the destruction of the vital centers in the brain, be discovered. In the Good Management Group the grade for close observation was eighty-five per cent as compared with a grade of fifty-four per cent for the Poor Management Group. This alone accounts for much of the increased mortality rate in the latter group.

Postural Drainage or Aspiration: Remember, every brain injury case soon develops respiratory depression. Probably because of the shallow breathing and the retarded circulation, there is a tendency for a high percentage of these patients to have accumulations of fluid, mucus and blood, and even vomitus in the trachea. Many a skull fracture case drowns to death. Turning such a patient on his belly, with his head lowered, will allow much of this material to escape. Aspiration is even a better method to relieve this condition.

Oversedation: The use of morphine in the presence of shock, and especially if hemorrhage is present, is a time-honored practice, but in brain injuries where respiratory depression is the rule, morphine and many other sedatives only add to this depression. Careful observation in many cases will show the development of Cheyne-Stokes respiration after a dose of morphine. In thirteen

per cent of the cases treated in the Poor Management Group, oversedation was the rule and the death rate among these thirteen per cent mounted to sixty-seven per cent. Relief of the increased intracranial pressure by some dehydrating agent or by a spinal puncture is the *best sedative* you can use.

Oxygen is one of the best therapeutic agents available in brain injuries. The injured brain, encased in its bony cast, develops a condition of ischemia and anoxemia comparable to the extremity encased in a too tight plaster cast. Oxygen, by mask or nasal catheter, is indicated, always, in the unconscious patient, especially if there are other signs of increasing intracranial pressure. The records of the Average and Poor Management Groups showed this therapeutic measure was usually neglected.

Dehydration: Unquestionably, many of us have overemphasized dehydration. Too many of the records surveyed showed the surgeons ordering 50 cc. of 50 per cent glucose or sucrose every six hours, with the fluids limited to 1,000 or 1,500 cc. per day, and this management alone persisted in for days regardless of the signs or symptoms. Overdehydration was bound to follow. When, on the third or fourth day, a spinal puncture was resorted to, no spinal fluid, or only a few drops, could be obtained. These patients usually died, and most probably many of these surgeons con-

demned both dehydration and spinal puncture methods.

Hypertonic glucose or sucrose solution is one of the quickest and best methods of drawing fluid from the fluid reservoirs of the body, chief of which is the spinal fluid bed, into the arterial system, thus increasing blood volume. It is even a quicker method of restoring blood volume than to give intravenous fluids, and it certainly does not hasten the cerebral edema as do the latter. Close observation of each individual case, after the shock is overcome, will show that forty or fifty per cent gradually but steadily improve, with their pulse, respiration, blood pressure and temperature soon stabilizing near normal. Such patients, however, may show signs of growing restless, becoming confused, or the diastolic pressure may again drop. When these signs and symptoms appear, a second or even a third hypertonic glucose solution intravenously (50 cc. 50 per cent glucose), or even a simple magnesium sulphate enema will again restore them to normal. But if these simpler methods fail to show improvement shortly, then spinal drainage must be resorted to. You can not depend upon glucose or sucrose alone or routinely and expect to lower your mortality rate in brain injuries.

Water Balance is a far better term than dehydration. It signifies that the surgeon is maintaining an adequate water balance without pushing fluids to the extent of waterlogging the tissues, especially the brain. If dehydration is practiced for any length of time it must be guided by blood chemistry studies. It can not be used without keeping in mind constantly the danger of overdehydration. The temperature of the atmosphere, the amount of sweating by the patient, his output, the presence of frequent vomiting and the size and age of the patient must all be considered in maintaining a minimum water balance.

Spinal Drainage: With the exception of two eminent neurosurgeons there are no outstanding authorities left in this country who object to lumbar puncture in brain injury cases. In all of the articles written concerning head injuries in war surgery emphasis has been placed upon spinal drainage. In the Good Management Group of my surveyed cases spinal drainage was resorted to in fifty per cent of their cases against twenty-two per cent in the Poor Management Group. I am absolutely convinced that, when indicated, spinal drainage is life saving.

To be life saving the lumbar puncture must be done early and not as a last

resort. In eighty-seven per cent of my own cases and in eighty-six per cent of the cases receiving spinal punctures in the Good Management Group, the procedure was resorted to in the first twenty-four hours. In the Poor Management Group only eighteen per cent of their spinal punctures were performed in the first twenty-four hours.

Within the bony cast, the skull, there are three component parts, namely, the brain, the blood and the cerebrospinal fluid. The Monro-Kellie doctrine, enunciated one hundred years ago, pointed out that a decrease or increase in the volume of any one of these three elements is immediately compensated for by reciprocal alterations in the volume of one or both of the remaining elements. Fluid is the only one of these elements which can be removed without operation. This can be accomplished by either dehydration or spinal puncture. It stands to reason, therefore, that if sufficient fluid volume is to be removed to relieve pressure on the swollen brain or to temporarily increase the inflow of blood, a sufficient amount of spinal fluid must be drained. A diagnostic puncture or the removal of only 4 to 8 cc. of spinal fluid is not a therapeutic measure. Some advocate draining the patient dry while others advocate only removing a sufficient amount to bring the spinal fluid pressure to normal. These latter prefer to repeat their spinal drainage every six hours rather than to remove too much at one tap. In the author's cases an average of 40 cc. of spinal fluid was removed. In the Good Management Group an average of 40 cc. was likewise removed. In the Poor Management Group an average of 8 cc. of spinal fluid was removed. The author's gross death rate was 16.8 per cent. The Poor Management Group had a death rate varying from 30 to 42 per cent. In his opinion, the resorting to the spinal puncture early and the draining of a sufficient amount of fluid to actually relieve pressure, and increasing the blood supply account to a marked extent for these differences in mortality rates.

Operations

Many brain injury patients who die have extradural and subdural hemorrhages, as shown at the autopsy table. However, many of these are associated with such severe brain lacerations and hemorrhages that no operative procedure would have saved them. On the other hand, our survey of 3,106 cases indicates that many a patient might have been saved if operated upon not

too soon or to late. No surgical case needs such careful surgical judgment as to when to operate as do these brain injury cases.

The depressed fracture, with the exception of the very trivial depressions, should always be operated and the depression either elevated or removed. Some of the slight depressions over the motor area warrant operation. Few depressed skull fractures, however, need to be operated at once. Most of them can wait until the patient's condition warrants this additional insult. However, if the patient with a depressed fracture develops focal signs or does not improve under careful management, the operation must not be delayed. In every hundred skull fracture cases one may expect at least four such depressed skull fractures.

Compound and compound depressed skull fractures occur two to three times in every hundred cases. These compound fractures require early but not immediate operation. Effort should be made to overcome the shock and when this is overcome then the wound should be thoroughly debrided, the depressed fragments removed, the site of brain injury thoroughly irrigated with salt solution, sprayed with sulfanilamide and the wound closed even if the dura can not be repaired. On two occasions with marked dural damage I have covered the brain with a gutta-percha dam and then closed the scalp over this. In one case the dam was removed in two weeks, and in the other it exuded itself at the end of six weeks.

In every hundred cases two to three per cent will have extradural or subdural hemorrhages that can be safely attacked surgically. These give very definite signs and symptoms, but too often the latter are masked by the signs and symptoms of further brain damage. Because of this fact some of our brain surgeons are now advocating "woodpecker" surgery on the skull. This consists of multiple trephine openings made over both sides of the skull as a form of exploration to ascertain when and if an extradural or subdural hemorrhage exists. Unquestionably, such advocacy will increase the operative rate with a concomitant increase in the death rate in the hands of the average surgeon throughout the country. Whether the benefits of such cranial explorations will outweigh the hazards, time alone will tell. Personally, I believe about ten per cent of any large series of cases will require surgical intervention. The highest operative rate in the Good Manage-

ment Group was eight per cent as compared to the high operative rate of twenty-five per cent of one hospital in the Poor Management Group. Conservatism in operative intervention in brain injuries still seems to be the best plan of management. Conservatism to the point of neglecting operation when indicated is to be deplored.

In conclusion, the author wishes to stress that there is no routine management applicable to all brain injury cases. Each case must be individualized. The treatment must be guided by the signs and symptoms. The only routine that can be adopted is that of *closest observation*. You must live with your skull fracture case.

122 South Michigan Avenue

Facial Injuries

A Synopsis of the Treatment of Soft Tissue Injuries

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IF A FEW simple rules are followed, much can be done to insure a good cosmetic result in facial injuries involving the soft tissues. These rules will aid in obtaining good apposition, in preventing unsightly scars by decreasing the number of stitch marks and in preventing "tattoo" marks due to foreign bodies.

The principles are applicable whether the surgeon is doing the complete reconstruction, or only getting the patient in the best possible condition for subsequent repair. Assuming the patient is in the office or hospital, where more than first aid treatment can be carried out, the suggested steps are usually in this order:

1. *Arrest of hemorrhage.* An unnecessary number of ligatures in a given area can cause scar tissue formation that may result in small areas of discoloration or contracture. If ligation of vessels is necessary to prevent a hematoma, a fine white silk or cotton suture is sufficient, using a regular surgeon's knot and cutting the sutures close to the knot. *Absorbable sutures are not indicated in surgical repair of the face* as the mere act of absorption causes too much scar tissue reaction to be compatible with passable cosmetic results. In most in-

stances, hemorrhage from vessels in this area will stop spontaneously, if pressure is applied for a short period of time. If vessels are incompletely severed, they may continue to bleed because they are unable to retract and become occluded. So, on occasion, "nicked" vessels that are bleeding should be completely severed as an aid to possible hemostasis. Simple pressure, either digital or by bandage will stop almost all bleeding. If these methods fail, ligatures must be used.

2. *Prevention of additional trauma and contamination to the wound.* A clean dressing should be placed over the wound itself to prevent further gross contamination prior to the final cleansing. Do not apply disinfectants or bactericidal agents to a fresh wound of the face unless a period of hours is to elapse before final cleansing. If hours are to elapse, it is becoming an accepted practice to sprinkle sulfanilamide powder into the wound.

3. *Evaluation of patient's general condition.* Upon the general condition will depend the extent and method of the repair. Recognition of associated injuries is most important at this time. If fractures of the facial bones, nose or jaws are encountered, they must be considered in the plan of repair. Fixation of soft tissues by bandaging or suturing is not surgically sound unless fractures of the bone are also properly aligned. It is as unthinkable to sew up a wound of the face over malaligned fractured bones as it is to sew up a laceration over a compound fracture of the femur and leave the fractured bone unattended.

4. *Cleansing the wound.*

a) Do not in any way apply a bactericidal agent that will decrease the viability of tissues. A common practice is to pour some antiseptic agent into an open wound; this act may cause irreparable tissue damage. More harm is done to the tissue by the operator in overtreatment by using tissue destroying antiseptic agents than by any other one factor. Any standard toilet soap and sterile water, plus soft, sterile, cotton gauze pads is the essential equipment necessary to properly cleanse most wounds.

b) The operator must be properly gowned, masked and scrubbed. Rubber gloves are not essential, but are, of course, recommended. Wash the skin in the field of operation up to the wound or up to the edge of any dressing that may be over the wound itself. This washing means the gentle scrubbing of the tissues with the cotton gauze squares

soaked in a soap and water mixture—using sterile or boiled water. After washing for 5-7 minutes, rinse with a sterile physiological saline solution or plain sterile warm water. Alcohol may be applied to the skin, but let it dry—don't wipe it off. If a local anesthetic is to be used, it may be instituted at this stage—if no injection is to be made thru the wound itself.

c) Next, remove the dressing, or, if there is no dressing, the wound itself may be cleansed by gentle flushing. If grossly contaminated, it too may be scrubbed as outlined above and all foreign bodies removed. This does not mean the removal of all loosened and exposed bone. If there is any attachment to subcutaneous tissue, muscle or periosteum, leave the bone in place as the regenerative powers of tissues in this area are tremendous. Foreign bodies, including dirt, blood-clots, oil, carbon and devitalized tissue, must be removed. This may mean washing with some solvent if grease is present. The mechanical removal of foreign bodies may require a long period of time, with the careful removal of small foreign bodies, one at a time, with fine instruments, using a fine spud or other small probing instruments. The important thing is to get these foreign bodies out at this time as they favor infection and they may permanently disfigure the patient. As favorable an opportunity to remove these particles never again presents itself. Permanent marks made by foreign bodies may simulate a "tattoo" mark, and, in fact, the mark is at the same level as a "tattoo" mark would be, and removal may mean full-thickness skin excision with its contained foreign bodies and the necessary complicated repair.

5. *Fixation or splinting of the tissues* is the next step after all bleeding has been stopped, the wound cleansed, and foreign bodies and devitalized tissue removed. Splinting of fractured bones and soft tissues of the face is as imperative as splinting anywhere else in the body. As a rule, the splinting of the soft tissues is done by suturing and bandaging—the important point is to allow the tissues to rest during the healing stages, and not allow movement that will disrupt the newly united tissue. The suturing of skin wounds of the face, to result in as little scar tissue as possible, has for its first requirement the removal of tension from the skin edges themselves. This is done by "figure of eight" sutures for full-thickness lacerations of the lips (Fig. 1.), and "interrupted" sutures

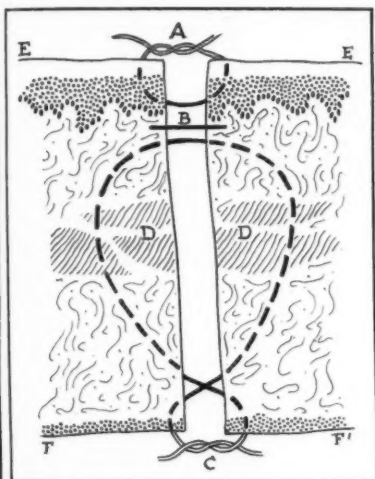


Fig. 1. A. Horse Hair Friction Knot. B. Subcuticular Suture. C. Knot on Mucous membrane Layer. D. Muscle Layer. E. E'. Skin Surface. F. F'. Mucous Membrane Surface.

with the knot in the dependent portion of the wound for lacerations elsewhere on the face (Fig. 2.). The "interrupted" tension suture (fine white silk or cotton on a small half-circle cutting needle) is started at the dependent portion of the wound, then brought near to the surface and across the defect and out again in the dependent portion. The knot is at the depth of the cut so that any reaction caused by the knot will be minimal. It may be necessary to further undermine the tissues to allow them to be drawn together. The skin itself is sutured with

a continuous subcuticular stitch — preferably nylon or horsehair on an atraumatic needle. (Fig. 3.) If any sutures are used on the skin surface, a horsehair suture with one double twist or friction knot is all that is necessary. The elasticity of the horsehair allows for some swelling and tends to minimize the formation of scar tissue. These skin sutures are removed in 24-48 hours. The tension is maintained by the buried sutures that are not removed. The subcuticular sutures (nylon 6-0 or 4-0 or horsehair) are removed in 7-10 days—drawing the suture

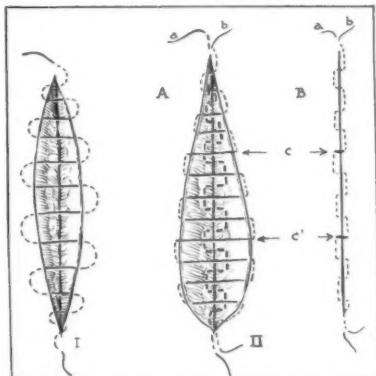


Fig. 3. Halsted's intradermic or subcuticular suture, employed when especially fine scar is desired.

I. Needle introduced 0.5 cm. beyond one angle of wound and brought out at end. Needle engages corium at points 0.5 cm. apart, until entire wound is traversed. Suture then brought out 2 or 3 cm. beyond angle of wound, needle being kept close to skin and at the same level on both sides.

II. Double suture. A. a, deep suture. A. b, superficial suture. B. suture tied. c c', superficial suture brought out on skin surface every 2 or 3 cm. to facilitate its subsequent removal. (Samuel Fomon).

out from either end of the incision. Dressings should be minimal, and, if they don't aid in the fixation of the injured part and exert some pressure to aid in preventing edema or hemorrhage, should not be used. Don't change dressings too frequently.

If tension is applied to skin sutures proper, they invariably create scars. Therefore, tension is removed by placing the load on the buried interrupted, subcuticular sutures. On occasion these sutures do create some reaction and cause a small pustule. Pressure will cause a small opening in the skin thru which the stitch is lost, but which usually results in a pin-point scar, which at its worst is less than the unsightly stitch mark caused by tension bearing skin sutures.

55 East Washington St.

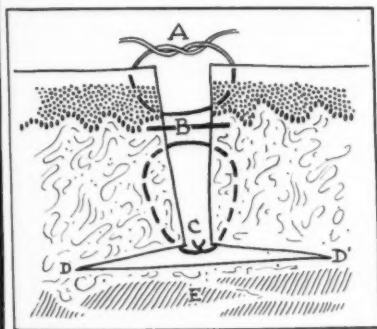
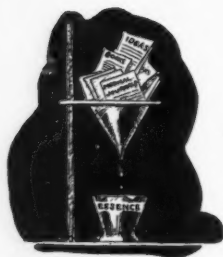


Fig. 2. A. Horse Hair Friction Stitch (Double Twist). B. Subcuticular suture, Nylon, silk or cotton. C. Tension Suture with Knot in Dependent Portion of Wound. D. Undermined region. E. Muscle Layer.



CLINICAL NOTES and ABSTRACTS

Microfilm copies of any of the published papers here abstracted, up to 25 pages, may be obtained for 25 cents from Microfilm Service, Army Medical Library, Washington, D.C.

Lower Half Headache

Many patients, who are diagnosed as having sinusitis, eye strain and other special sense disorders, are found to be suffering from lower half headache. Their symptoms (headaches of varying intensity, which come on in attacks, pain, and tenderness, over the frontal sinuses and neck muscles, upper jaw pain, earache, pain in the throat and deep eye pain) are entirely relieved by the application of cocaine directly to the sphenopalatine ganglion.

Technic: A cotton applicator soaked in cocaine solution is applied above and behind the middle turbinate bone and into the sphenopalatine fossa on the lateral wall of the nose. In some instances, the pain is relieved by shrinking the mucous membranes of the nose.

Histamine diphosphate, in gradually

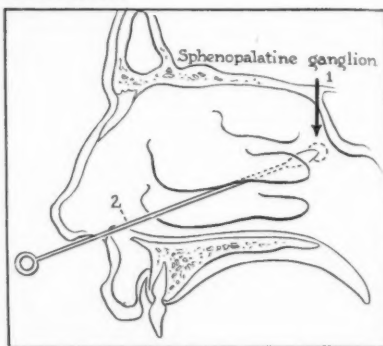


Figure 2. (from Morrison). Application of cocaine to the sphenopalatine ganglion through the nasal cavity: The ganglion lies $\frac{1}{2}$ cm. behind and above the posterior end of the middle turbinate attachment; (1) the ganglion; (2) wire applicator placed under the posterior part of the middle turbinate to touch the area of the sphenopalatine foramen.

increasing doses as given by subcutaneous injection, is effective in some cases.—M. GIRLING, M.D., in *Northwest Med.*, Dec., 1942.

(The "lower half headache" of Sluder has been forgotten by many clinicians when considering the cause of pains apparently arising from the eye, nose, sinuses and ears. Morrison writes, "The pain is almost always unilateral, it tends to last for hours or days, without relief at night, and to appear and disappear without apparent reason." (W. W. Morrison, M.D., in "Diseases of the Nose, Throat and Ear," W. B. Saunders Company, 1938). Our illustrator has modified sketches from Logan Turner and from Morrison to show (1) the nerve supply of the lateral nasal wall and (2) technic of anesthetization of the sphenopalatine ganglion.—Ed.)

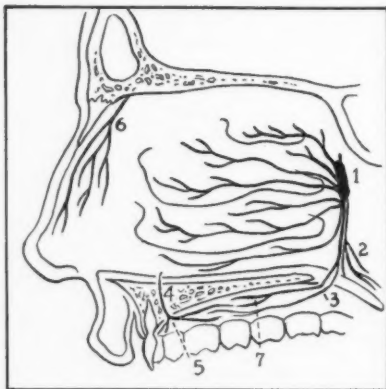


Fig. 1. Innervation of the lateral wall of the nose, showing the turbinates and (1) the sphenopalatine ganglion, (2) the posterior palatine nerve, (3) middle palatine nerve, (4, 5) nasopalatine nerve, (6) lateral nasal nerve and (7) the anterior palatine nerve. (From Logan Turner).

New Problems for the Industrial Physician

The new problems of industrial health especially concern (1) the greatly increased number of skin diseases (dermatoses), due to the increased use of cutting oils, compounds, and chemicals; (2) the use of new abrasives and reversion to sand in blasting, with subsequent lung changes, foreign bodies in the eyes, etc.; (3) the use of x-rays in line operations (x-ray burns); (4) expansion of the use of acids in pickling operations, and countless solvents (burns, chemical dermatoses); and (5) the employment of older men, whose reflexes are slower or who are physically imperfect (more injuries, poorer healing, careful selection of job for the individual worker).—C. M. PETERSON, M.D., in *Minn. Med.*, Dec., 1942.

The Face in Heart Disease

While one is listening to a medical history, one should not forget inspection of the patient. The appearance presented by the patient suffering from cardiac disorder will vary widely, yet a careful observation of the facies will sometimes disclose evidence which is of value in the diagnosis. For instance, in *mitral stenosis*, one may notice a *cyanotic flush* of the face, associated with dilated capillaries in the skin of this area. In *aortic stenosis* and *aortic insufficiency* one notices a *pallor of the face*, which is exaggerated by well marked *cyanosis of the lips*. Any physician who has seen a patient with a *coronary thrombosis* will never forget the extreme *anxious expression* of the face and the *ashen pallor*, which may or may not be associated with pain. The patient with *congestive heart failure* usually will present a *puffiness* of the face, with varying degrees of *cyanosis*. The soft tissues may present a congested appearance.—ROY E. MYERS, M.D., in *J. Mo. M.A.*, Dec., 1942.

Gallbladder Roentgenograms

A gallbladder should not be judged on the basis of poorly filled or faintly outlined x-ray films. One-half of such gallbladders are normal, and *the patient can be saved surgical exploration if another set of films is taken*, with this technique:

The patient is instructed to eat an early breakfast of eggs, cereal, toast and butter, and a glass of milk; a noon luncheon of toast with jelly and coffee or tea with lemon; and a supper of

canned fruit salad with lettuce, but no dressing. One dose of gallbladder dye is given 2 hours after breakfast, the next dose two hours after the noon meal, and the third dose, if thought necessary, following supper. The patient is instructed to take nothing except water and fruit juices, and, at the end of 18 to 24 hours, to take an enema and return for x-ray examination.—M. FELDMAN, M.D., in *Radiol.*, Dec., 1942.

The "Innocent" Gallstone

In following up a series of 114 patients who refused surgical removal of the gallbladder, it was found that 5 developed cancer of the gallbladder; 13 died of cholecystic disease and hepatitis; and 25 were forced to surgery because of complications of gallstones (common bile duct stone, perforation of the gallbladder, severe cholecystitis which did not subside without surgical aid). Of the latter group, four died. Cancer of the gallbladder is always preceded by gallstones. "Innocent gallstones" are a myth.—H. MATTHEWSON, M.D., in *Minn. Med.*, Dec., 1942.

Chloral Hydrate

Chloral hydrate is one of the best known hypnotic drugs, and most of its virtues and faults have been uncovered. In its favor are its cheapness, relative safety, and effectiveness. Against it are its disagreeable taste and odor, its irritating action, its toxicity under special conditions, and its lack of analgesic power.

The recommended dose of chloral hydrate varies from 5 to 30 gr. (0.32 to 2.0 Gm.). Frequently, a far greater amount is given than is necessary to obtain the desired hypnotic effect. A safe rule to follow in regard to all soporific drugs is to begin with the minimum effective dose and increase gradually. The physician often overlooks the fact that, in many cases, all that is needed is a certain amount of sedation, and that the faith of the patient in the drug will accomplish the rest. Often 5 grains of chloral hydrate will produce satisfactory sleep.

Since the drug is readily soluble in water, it can be prescribed in solution as follows:

R

Chloral hydrate 3 iiss (10 Gm.)
Fluid extract glycyrrhiza 3 ij (60 cc.)
Syrup of orange to make 3 iv (120 cc.)

Since one teaspoonful contains only 5 grains, the dose may readily be increased

to two teaspoonfuls or more if needed. It should be mentioned that chloral hydrate must not be dispensed in an alcoholic vehicle. — *Wis. M. J.*, Feb., 1942.



Eye Signs in Diagnosis

As far back as written records take us, we find a belief that the eye offers an index to character and mental traits. While we no longer look in the eye for evidence of witchcraft, anger, vice, or virtue, we do look for various signs, here tabulated.

	Eye Sign	Significance
Size of eye	Large Small	Myopia (near sightedness). Far sightedness.
Protrusion	Protruding eye Sunken eye	Exophthalmic goiter. Sympathetic paralysis (Horner's syndrome); lesion of medulla.
Watery eye Restless eye Muscular imbalance Conjunctival petechiae Pupil	Nystagmus Paralysis Fixed, irregular pupil	Renal insufficiency. Multiple sclerosis. Intracranial affections; syphilis. Subacute bacterial endocarditis. Syphilis (often confused with "rheumatism").
Color of Sclera	Yellow sclera Grey sclera Bluish sclera	Jaundice (noted readily by having patient look to one side). Argyrosis (silver poisoning). Osteogenesis imperfecta (many fractures); Tuberculosis of youngsters.
Hardness	Hard eyeball Soft eyeball	Glaucoma. Diabetic coma.

D. ALPERIN, M.D., in *E. E. N. T. M.*, Jan., 1943.

Atelectasis Following Trauma

Atelectasis (collapse of a part or all of one lung) may follow an injury or operation, due to inadequate respiration and ventilation of the lung, bronchial obstruction from secretions or foreign substances, and finally pulmonary consolidation from retained infectious material.

Treatment: Bronchoscopic suction of obstructing material from the bronchi is the most direct procedure, but often is not available. Oxygen should be given continuously, with occasional inhalations of a mixture of 5 percent carbon dioxide and 95 percent oxygen.—H. C. HINSHAW, M.D., in *Arch. Phys. Ther.*, Oct., 1942.

Coming Miracles in Family Health

How would you like to take that dose of bitter medicine by rubbing it into your skin? To drink a surgical operation? To swallow x-rays that heal from within? To serve meals on dishes that electrocute germs? To gargle away a toothache? To make the air of your home deadly to influenza and infantile paralysis viruses? To serve foods whose vitamins have been tested with electronic tubes?

Ultraviolet tubes will be used freely in

the postwar home, to kill bacteria in the air, to prevent milk, meat and bread from spoiling and to sterilize dishes. (A "curtain" of ultraviolet light has been shown to destroy bacteria passing between infant cubicles in nurseries.—Ed.)

Ionized silver mixed with a plastic may be painted on to dishes and glasses, so that bacteria are destroyed and illnesses can't be transmitted from one person to another.

Pencillin, a powerful new antiseptic, is prepared from a mold growing on cheese; it protects against enormous doses of bacteria. **Gramicidin** is extracted

from bacteria swarming in the soil. It may be very effective in clearing up chronic infections.

The Precipitron traps dust particles, hayfever pollen and bacteria on an electric plate; it will be used for cleaning the air in your home.

Dental decay is partially due to a lack of fluorine in drinking water.

Fenetrasols are new chemicals that are absorbed when rubbed on the skin. Medicines, such as the sulfonamides, may be given in this way. —*Better Homes and Gardens*, Mar., 1943.

Vitamin Deficiencies

In regions where serious deficiency disease is rare, the diagnosis is usually missed. Scurvy is considered to be an obscure hemorrhagic disease or anemia; riboflavin deficiency is diagnosed as eczema or conjunctivitis, of unknown cause; beriberi heart is diagnosed as enlarged heart or decompensated heart; persistent diarrhea may be due to failure to absorb vitamins.

A person on an ulcer diet tends to become vitamin-deficient and anemic. A person doing heavy exercise needs more vitamin B₁, as does also the person with hyperthyroidism. If large amounts of dextrose are given intravenously, B₁ stores are rapidly depleted.

If the patient has been eating fruit, vegetables, and meat daily, nutritional deficiency disease can be ruled out. It must be determined that an adequate diet is taken every day. —W. J. LACKEY, M.D., in *South. Med. & Surg.*, Dec., 1942.

[A perfect daily diet should include 2 servings of fruit, one fresh; 2 servings of vegetables, one fresh; 1 large serving of meat or eggs; 2 glasses of milk; and a whole-wheat cereal or bread and butter. —Ed.]

Restricted Diet for Asthma

Every patient with asthma should have a full set of teeth and be taught how, when and what to eat. The first rule of diet for them is this: *Never Eat Enough*.

Fresh bread, fried foods, pastry, salt meat, salt fish, corn, cucumbers, sweet potatoes, nuts, cheese and condiments should not be eaten. Every mouthful should be chewed thirty times. No liquids of any type should be taken with meals.

Attacks are often brought on by heavy or late meals. Supper should consist of 1 slice of day old whole wheat or rye bread with butter and two tablespoons of stewed or canned mixed fruit. This should be

eaten not later than 6 p.m.

BOYCE D. BROOKER, M.D.
Richmond, Virginia.

[It is well known that many advertising quacks get results by almost starving their patients for a period of time. In a personally observed, severe case, requiring adrenalin by injection every four hours, the patient was entirely relieved by going on a diet of fruit and whole wheat cereals and bread, only to relapse on returning to full diet. —Ed.]

Surgical Treatment of Hypertension

If a patient with slight or moderate hypertension has sudden, severe attacks of palpitation, dizziness, dyspnea, headache, and precordial distress, he may be experiencing an attack of *paroxysmal hypertension*. If examined at that time, his blood pressure may be found tremendously elevated (300/150). *Treatment*: Exploration of the adrenal glands for a tumor, the removal of which promptly cures the hypertension.

If premature puberty, masculinization of the female, or Cushing's syndrome (purple striae on the abdomen) are found, an adrenal tumor or hyperplasia will be found, necessitating removal of the tumor or excision of the upper lumbar sympathetic system.

The patient with malignant hypertension or with gradually rising blood pressure should be studied to see if a sympathetic nervous system operation would prevent such sequelae as apoplexy and relieve symptoms. Surgery cannot be carried out if cardiac or renal function is poor, and is usually not advised if the patient is much past fifty years of age or is definitely arteriosclerotic. —T. FINDLEY, M.D., in *Tri-State Med. J.*, Oct., 1942.

Oxygen in Dyspnea

In serious asthma, pneumonias of undetermined origin, and pulmonary edema, the simple inhalation of oxygen may not be sufficient. It should be given under a positive pressure of from 1 to 6 cm. of water. This is easily obtained by carrying the exhaled air through a tube and releasing it under water or by using a mask which has various sized apertures for expiration.* A vaporized solution of Adrenalin or Neosynephrin may be added to the oxygen. —A. L. BARACH, M. D., in *Ann. Int. Med.*, Nov., 1942.

*The mask may be obtained from Oxygen Equipment Mfg. Co., 405 E. 62nd Street, New York City.



THUMB NAIL

THERAPEUTICS

Sulfaguanidine in Typhoid and Dysentery

• Sulfaguanidine administration, in a few cases of typhoid, resulted in disappearance of the fever in one week, but the drug was continued for an additional week to prevent a relapse.

It is effective in almost all the infectious summer diarrheas, especially for the bloody diarrhea caused by bacillary dysentery. If sulfaguanidine is not effective in treating the dysentery, sulfathiazole will often be curative. —C. WILLIAMS, M. D., in *Va. Med. Monthly*, Nov., 1942.

Single Dose Treatment of Gonorrhea

• The administration of 2 to 7 Gm. (30 to 105 grains) of sulfathiazole or sulfadiazine results in the disappearance of gonococci and in the apparent cure of gonorrhea in a large percentage of patients. These patients must be checked at weekly intervals for six weeks, to ensure against relapse. —J. H. STOKES, M. D., in *J.A.M.A.*, Dec. 2, 1942.

Thiamin Requirement

• The vitamin B₁ (thiamin) requirement of the average individual is 500 micrograms per thousand calories in the diet. —D. MELNICK, M.D., in *J.A.M.A.*, Oct. 30, 1942.

(The patient doing light work would thus need from 1,000 to 1,500 micrograms of thiamine; the patient doing heavy work would need 2,000 micrograms (2 mg.) daily. —Ed.)

Chronic Conjunctivitis

• In chronic conjunctivitis, for the astringent effect of the zinc, and the cooling properties of the lavender and rosemary, use this prescription:

Zinc Sulfate	0.06
Tinct. Lavender Comp.	0.60
Spirits Rosemary	0.60
Aquae dest	30.00

Sig: — Use in eyes two or three times daily. — *E.E.N.T.M.*, Sept., 1942.

Functional Bleeding at Puberty

• The administration of from 25 to 100 mg. of stilbestrol, in a single or divided dose, will stop the severe bleeding that sometimes occurs in girls at puberty. In the cyclic therapy of pubertal bleeding, one gives 1 mg. of stilbestrol daily for 28 days; during the last 7 days, progesterone is also administered by mouth (1 unit daily); most such patients need ½ gr. of thyroid extract daily, also. This process is repeated for two or three monthly cycles, and then all treatment is stopped. —B. WEINSTEIN, M.D., in *Tri-State Med. J.*, Nov., 1942.

Music and Physiology

• Music does things to you, whether you like it or not. Fast pieces invariably raise the pulse rate, respiration, and blood pressure; slow music lowers them. —DORON K. ANTRIM, in *Forbes*, Aug. 15, 1942.

Sulfanilamide Irrigations in Infections

• The irrigation of infected lesions, especially deepseated ones such as osteomyelitis and discharging fistulas, with hot solutions of sulfanilamide have resulted in many quick cures, even of prolonged conditions. The sulfanilamide is dissolved in distilled water at a temperature of 140° F. at which temperature, at least a six-percent solution is obtained. The cooler the solution, the less sulfanilamide will be dissolved. —F. R. ADAMS, D.D.S., in *J. Am. Dent. Assoc.*, Jan. 1, 1943.

[Sulfanilamide is obtainable in a more easily soluble form, prepared by the Abbott Laboratories, North Chicago, Illinois, as "Sterilopes" — sterile envelopes containing 5 Gm. of powder. —Ed.]

Stilbestrol in Prostatic Carcinoma

• Stilbestrol, in doses of 1 mg. three times weekly, will relieve many of the symptoms (nocturia, dysuria, slow urination) of prostatic carcinoma. In a few cases, its use results in a decrease in size of the gland. Occasionally, it may be necessary to increase the dose to as much as 5 mg. daily. If results are unsatisfactory, castration may give good results. —W. P. HERBST, M.D., in *J.A.M.A.* Dec. 5, 1942.



DIAGNOSTIC POINTERS

Scurvy in Babies

● Acute scurvy, with painful, swollen legs and swollen gums, is generally seen in babies under the age of two years, since the child receives a more adequate diet after that age.—J. C. BRAUER, D.D.S., in *J. Am. Dent. Assn.*, Jan. 1, 1943.

(An occasional case of acute scurvy is still seen. The very tender legs (the result of bleeding under the periosteum of the long bones) are mistaken for acute osteomyelitis; the inflamed gums may be considered as infectious. If in doubt concerning any infant's condition, one may ask the mother what she feeds the child every day.—Ed.)

Blood Sedimentation Rate

● In tuberculous patients, the more rapid the sedimentation rate, the worse the prognosis. Most of the deaths occur in those with rapid rates of sedimentation.—DRS. E. LEWIS-FANNING & M. MYERS, in *Brit. M. J.*, 2:125, 1942.

Cervicitis and Sterility

● Cervicitis and stenosis of the cervix are frequent causes of sterility.—A. CURTIS, M.D., in "Textbook of Gynecology" (W. B. Saunders Co., Publishers).

Bleeding Gums

● Bleeding from the gums should make one suspicious of vitamin C deficiency (scurvy). In well developed cases, there is a deep, bluish-purple, spongy swelling of the mucous membrane of the gums.—J. C. BRAUER, D. D. S., in *J. Am. Dent. Assoc.*, Jan. 1, 1943.

Lung Cancer

● More than 80 percent of lung cancers occur in men past 40 years of age, while 75 percent of benign lung tumors (adenomas) develop in women of less than 40 years. These facts may help in the difficult diagnosis of this disease.—ALFRED GOLDMAN, M.D., in *Science News Letter*, Aug. 8, 1942.

Renal Stone and Colic

● Most cases of renal colic are not associated with renal stone, and most cases of stone do not give rise to renal colic.—H. P. WHITE, F.R.C.S. in *Med. World (Lond.)*, Nov., 1942.

Albuminuria

● The presence of a little albumin in the urine is no proof of renal disease. It is not uncommon, for example, for the urine to show traces of protein when hypertension is present, even though the kidneys are efficient.—HUGH McLEAN, M.D., in *Med. World (Lond.)*, Nov., 1942.

[The presence of a small amount of albumin indicates, first, the necessity for catheterization and examination of the uncontaminated urine.—Ed.]

Stomach Cancer

● Most cases of gastric carcinoma are relieved by peptic ulcer therapy for a time. Relief of symptoms under medical management is not a therapeutic test to rule out cancer.—J. S. HORSLEY, M.D., in *Va. Med. M.*, Jan., 1943.

Tuberculin Test

● All applicants for a marriage license should have a tuberculin test made at the same time that the Wassermann test is performed.—G. R. MAXWELL, M.D., in *W. Va. Med. J.*, Nov., 1942.

Coronary Disease

● Coronary disease is generally found among people who undergo unusual stress and carry heavy responsibilities. It is rarely seen in a common laborer.—ROY E. MYERS, M.D., in *J. Mo. M.A.*, Dec., 1942.

Uterine Bleeding

● The sudden cessation of administration of estrogenic substances (stilbestrol, Theelin) may induce uterine bleeding, simulating cancer, or cause an increase of hot flashes, insomnia, and nervousness.—D. G. DRIPS, M.D., in *Journal-Lancet*, Dec., 1942.

"Hot Flashes"

● If "hot flashes" are noted only during the day, one should look for some cause other than endocrine. True menopausal flashes appear at night and awaken the patient.—D. DRIPS, M.D., in *Journal-Lancet*, Dec., 1942.

NEW BOOKS

Any book reviewed in these columns will be procured for our readers if the order, addressed to **CLINICAL MEDICINE**, Waukegan, Ill., is accompanied by a check for the published price of the book.

Books must follow sciences, and not sciences, books.—Bacon

BRUCELLOSIS IN MAN AND ANIMALS

Huddleson

BRUCELLOSIS IN MAN AND ANIMALS. By I. Forest Huddleson, D.V.M., M.S., Ph. D., Research Professor in Bacteriology, Michigan State College. Contributing Authors: A. V. Hardy, M.S., M.D., Dr. P.H.; Associate Professor of Epidemiology, DeLamar Institute of Public Health, Columbia University Medical School; Consultant, U. S. Public Health Service; J. E. Debono, M.D., M.R.C.P., Professor of Pharmacology and Therapeutics, Royal University of Malta; Ward Giltner, D.V.M., M.S., Dr. P.H., Dean of Veterinary Division and Professor of Bacteriology, Michigan State College. Revised Edition. 1943. New York: The Commonwealth Fund. Price \$3.50.

Undulant fever is becoming recognized as a common cause of prolonged fever and weakness; the profession does not realize, as yet, the many other signs and symptoms that it causes (skin eruptions, muscular pain on motion, orchitis, hacking cough and so on).

The author has studied *Brucella* infection for many years and has summarized his findings here. Signs and symptoms in a group of Iowa cases are also presented. Details of diagnostic procedures for man and animal are given so that the physician and veterinarian can make the diagnosis certain.

The Commonwealth Fund has performed a service in making this splendid volume available at such a reasonable price.

ESSENTIALS OF PROCTOLOGY

Bacon

ESSENTIALS OF PROCTOLOGY. By Harry E. Bacon, M.D., F.A.C.S., Professor and Head of Department of Proctology, Temple University Medical School and Hospital; Head, Proctology Department, St. Mary's Hospital; Consulting Proctologist, Rush Hospital, National Stomach Hospital and so on. Introduction by Curtice Rosser, M.D., Professor of Proctology, Baylor University, Dallas, Texas. Philadelphia, London. Montreal: J. B. Lippincott Company, 1943. Price, \$3.50.

For the surgeon and general practitioner who wish to have the working knowledge of proctology quickly available, this brief text is the best yet seen.

Each rectal condition is briefly described, usually with illustrations, and its treatment given simply and directly.

Inside the front cover are two pages containing an index of signs and symptoms. If one finds a protrusion through the anus, quick

reference can be made to the list of various tissues which may so protrude. Tenderness at various points about the anus is shown to be suggestive of various abscesses or fissure. This handy table presents the common causes of rectal lesions classified so that one can find immediate help in making a diagnosis.

The excellent illustrations by Wm. Brown McNett show the technic of rectal operations.

MANUAL OF INDUSTRIAL HYGIENE AND MEDICAL SERVICE IN WAR INDUSTRIES

MANUAL OF INDUSTRIAL HYGIENE AND MEDICAL SERVICE IN WAR INDUSTRIES: Issued under the Auspices of the Committee on Industrial Medicine of the Division of Medical Sciences of the National Research Council. Prepared by the Division of Industrial Hygiene, National Institute of Health, United States Public Health Service. William M. Gajafar, D.Sc., Editor: Philadelphia and London: W. B. Saunders Company, 1943. Price \$3.00.

The sixteen contributors are all members of the United States Public Health Service. Despite this limitation, the small text is surprisingly informative.

Industrial psychiatry, and the need for the consequent understanding of the "after the boom, where do we land?" mental attitude of the war worker, is well expressed.

The routine handling of employees, the common industrial poisonings and dermatoses (no illustrations) methods of preventing air contamination, the consideration of mental, dental and nursing services in industry—all this and much more is given in handy, brief form. The book can be warmly recommended, especially for the physician who is new to industrial medicine or who must enlarge his industrial practice.

CLINICAL DIAGNOSIS BY LABORATORY METHODS

Todd and Sanford

CLINICAL DIAGNOSIS BY LABORATORY METHODS: A Working Manual of Clinical Pathology. By James Campbell Todd, Ph. B., M.D., Late Professor of Clinical Pathology, University of Colorado, School of Medicine, and Arthur Hawley Sanford, A.M., M.D., Professor of Clinical Pathology, University of Minnesota (The Mayo Foundation), Head of Division on Clinical Laboratories, Mayo Clinic. Tenth Edition, thoroughly revised with 380 illustrations, 32 in color: Philadelphia and London, W. B. Saunders Company, 1943. Price \$6.00.

Todd and Sanford's text contains all the essentials for a laboratory text. It describes common procedures so that the physician, who is on his own, may do them, and furnishes sufficient detail and illustrations to make sure that his technic is right and his interpretation correct.

For the large laboratory, there is included all the material that could be desired. It has been modernized by the inclusion of new material (fluorescent dye method of staining tubercle bacillus, identification of the sulfonamide crystals in the urine, the importance of hemoconcentration, new method for growing anaerobic organisms and others).

Illustrations (black and white, and colored) are exceptionally good; they represent how a thing actually appears. This is especially important to the physician or technician who may use a procedure only occasionally.



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